

[illegible]

1. A balloon dilatation catheter comprising:

b) a distal catheter shaft portion being more flexible than the proximal catheter shaft portion, having proximal and distal ends and a second inner lumen extending from the proximal end of the distal shaft portion to a location proximal to the distal end of the distal catheter shaft portion and being in fluid communication with the first inner lumen extending within the proximal catheter shaft portion; and

20 2. The balloon dilatation catheter of claim 1 wherein the polymeric material is a linear aromatic polymer.

3. The balloon dilatation catheter of claim 2 wherein the linear aromatic polymer is selected from the group consisting of polyetheretherketone, polyetherketone, polyketone, polyethereketoneketone, polyaryletherketone, polysulfone and polyether sulfone.

4. The balloon dilatation catheter of claim 1 wherein the polymeric material of the proximal catheter shaft has a tensile strength greater than about 14,000 psi, an elongation greater than about 60% and a tensile modulus greater than about 400,000 psi.

13. The balloon dilatation catheter of claim 5, wherein the outer tubular member is made of the polymeric material.

14. The balloon dilatation catheter of claim 13, wherein the
65 polymeric material is a polyetheretherketone.

15. The balloon dilatation catheter of claim 1, wherein:

[A] a) the polymeric material is a polyetheretherketone having a
tensile strength greater than about 14,000 psi, an elongation greater than
70 about 60 and a tensile modulus greater than about 400,000 psi; and

[B] b) the proximal catheter shaft portion has an outer tubular
member and an inner tubular member which is disposed within the outer
tubular member and which defines with the outer tubular member the first
inner lumen extending therein, at least one of the inner and the outer tubular
75 members being formed of the polyetheretherketone.

16. The balloon dilatation catheter of claim 1 sized and having the
flexibility and pushability required for use as a dilatation catheter for
percutaneous transluminal coronary angioplasty.

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17. The balloon dilatation catheter of claim 16, wherein the
polymeric material is a polyetheretherketone.

18. An intraluminal catheter for percutaneous insertion and
85 transluminal advancement into a patient's vasculature, the catheter having a
shaft comprising:

a) a proximal shaft portion formed at least in part of an
extruded thermoplastic polymeric material with a tensile
strength greater than 10,000 psi; and

90 b) a distal shaft portion that is more flexible than the proximal
shaft portion.

19. The catheter of claim 18, wherein the polymeric material is a polyetheretherketone.

95 20. The intraluminal catheter of claim 18, wherein the extruded thermoplastic polymeric material has an elongation greater than 50%.

21. The catheter of claim 20, wherein the polymeric material is a polyetheretherketone.

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22. The catheter of claim 18, further comprising a lumen extending at least in the distal shaft portion.

105 23. The catheter of claim 22, further comprising a second lumen in the catheter shaft adapted to receive a guidewire, the second lumen extending from a distal port in the distal end of the catheter to a proximal guidewire port proximal of the distal guidewire port.

110 24. The catheter of claim 22, further comprising an expandable dilatation balloon carried by the shaft, wherein the lumen directs inflation fluid to the dilatation balloon.

115 25. The catheter of claim 24, wherein the lumen has a proximal end for receiving inflation fluid and a distal end for directing inflation fluid to the balloon.

120 26. The catheter of claim 18, wherein the shaft has an inner tubular member and an outer tubular member, at least one of the inner and the outer tubular members having a proximal portion formed of the extruded thermoplastic polymeric material.

27. The catheter of claim 26 wherein the polymeric material is a polyetheretherketone.

155 38. The catheter of claim 37, wherein the polymeric material is a polyetheretherketone.

39. The catheter of claim 18, wherein the polymeric material has an elongation greater than 50% and a tensile modulus greater than 300,000
160 psi.

40. The catheter of claim 39, wherein the polymeric material is a polyetheretherketone.

165 41. The catheter of claim 18, wherein the polymeric material is a polyetheretherketone having a tensile strength greater than about 14,000 psi, an elongation greater than about 60%, and a tensile modulus greater than about 400,000 psi.

170 42. The catheter of claim 41, wherein the polymeric material is a polyetheretherketone.

43. The catheter of claim 18, sized and having the flexibility and pushability required for percutaneous transluminal coronary angioplasty.

175 44. The catheter of claim 43, wherein the polymeric material is a polyetheretherketone.

45. The catheter of claim 18, sized and having the kink-
180 resistance required for percutaneous transluminal coronary angioplasty.

46. The catheter of claim 45, wherein the polymeric material is a polyetheretherketone.

55. The catheter of claim 53, wherein said extruded thermoplastic polymeric material has an elongation greater than 50%.

220 56. The catheter of claim 55, wherein the polymeric material is a polyetheretherketone.

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